

Punctum blandianum Pils.

Pyramidula cumberlandiana, Lea. Rarely at the southern end of Monte Sano. This record, furnished by Smith, cancels the negative note in previous article.

There is a variety of *Pyramidula alternata*, Say, which is quite constant, distinguished principally by its sub-carinate contour, which was collected on an isolated peak (Ward's Mountain?) three miles south west of Huntsville.

Pyramidula sub-sp. nov. (Pilsbry). A splendid sub-species of *bryanti* which has been described by Dr. Pilsbry, but not yet published. Locality a dry ridge about 6 miles north of Monte Sano.

Succinea avara Say. Reported by Clapp.

Carychium exiguum Say. "Associated with *exile*, H. C. Lea, but rare and local." (Smith).

LAND SHELLS OF SOUTHERN FLORIDA.

BY E. G. VANATTA.

This list is based upon shells picked from leaf-mould collected in Florida by Messrs. Clarence B. Moore, H. A. Pilsbry, C. T. Simpson, Stewardson Brown, H. W. Fowler, and J. S. Raybon.

All are in the collection of the Academy of Natural Sciences.

Many of the specimens of *Truncatella bilabiata* are a rather smooth form parallel to *T. c. succinea* Ad.

The typical *Polygyra cereolus* Mühl. were at first divided by size from the var. *carpenteriana* Bld., but these two forms intergrade as shown by the following count of specimens in a large series from two localities. In a lot from Little Pine Key there are 46 *Polygyra cereolus* measuring from 14.5 to 10.5 mm.; 700 *Polygyra c. carpenteriana* measuring 10.3 to 7.5 mm., and 40 measuring 8.3 to 7 mm. in diameter.

From Big Pine Key at Robert Watson's place there are 12 *P. cereolus* measuring 14.5 to 11 mm. in diameter; 1009 var. *carpenteriana* measuring 11.3 to 9 mm., and 16 from 9 to 7 mm. It will be seen that no definite division can be made. Each of these lots represents a single colony, the snails being scraped up with the dirt, without selection, from under stones in an area of a square rod or two.

The *Bifidaria contracta* from Florida form a race in which the inner portion of the parietal lamella is divided from the forward part by a depression, as if it were another lamina joined to the main one.

In picking them over, one has a tendency to divide each lot of *Bifidaria pellucida hordeacella* from Florida into four forms, figured on plate II, as follows:—form A, *long*, figs. 1, 3, 4, 5, 9, 10, 15; form B, *medium-sized*, figs. 6, 7, 8, 13, 16, 17, 19; form C, *small*, figs. 14, 20, 21, 24, 25, 26, 27, and form D, *obese*, figs. 12, 18, 22. All these forms seem to intergrade in size through a small number of examples. The variation observed is largely due to the formation of a lip when the shells have made a different number of volutions, as the long forms have about $5\frac{1}{2}$ whorls and the short forms only about 4 whorls. It is peculiar that the long shells from Florida have weak teeth and the short specimens have strong teeth; while in Texas the converse is often the case.

To give an idea of the relative abundance of the forms, in a lot of *Bifidaria p. hordeacella* from Bahia Honda Key I counted 25 long, 31 medium, 15 small, and 7 obese shells. In another series from Key West there are 111 long, 358 medium, 22 small, and 140 obese specimens. Each of these lots was from dirt gathered in the area of a square yard or less. The size in mm. of the several forms may be measured by the scale supplied on the plate.

Vertigo variolosa is very scarce, as only four perfect specimens were found. *Helicina tantilla* also continues to be excessively rare. Many other equally small species were obtained by thousands.

For lists of species from other keys visited, see the THE NAUTILUS, xix, 1905, p. 38, and xxi, 1908, p. 99. Altogether over 50,000 specimens have been picked from dirt and débris obtained on the Florida Keys.

BAHIA HONDA KEY, Lee Co., collected by Dr. H. A. Pilsbry.

Chondropoma dentatum Say.

Truncatella bilabiata Pfr.

Truncatella caribæensis succinea Ad.

Thysanophora selenina Gld.

Thysanophora plagioptycha Shutt.

Polygyra cereolus Mühl.

Polygyra cereolus carpenteriana Bld.

Pupoides modicus Gld.

Bifidaria p. hordeacella Pils.

Bifidaria rupicola Say.

Varicella gracillima floridana Pils.

BLUE HILL, HORR'S ISLAND, Lee Co. (near Key Marco), collected by Clarence B. Moore.

Thysanophora plagiptycha Shutt.

Pupoides modicus Gld.

Bifidaria p. hordeacella Pils.

Bifidaria rupicola Say.

Vertigo variolosa Gld.

Guppya gundlachi Pfr.

Vitrea dalliana 'Simps.' Pils.

BOCA GRANDE KEY, Monroe Co., collected by Stewardson Brown and H. W. Fowler.

Drymæus multilineatus Say.

Cerion incanum Binn.

Succinea floridana Pils.

BOCA CHICA KEY, Monroe Co. Collected by Dr. H. A. Pilsbry, C. T. Simpson, S. Brown and H. W. Fowler.

Chondropoma dentatum Say.

Truncatella caribæensis 'Sby' Rve.

Truncatella bilabiata Pfr.

Helicina orbiculata Say.

Helicina orbiculata clappi Pils.

Thysanophora selenina Gld.

Thysanophora incrustata Poey.

Thysanophora plagiptycha Shutt.

Praticolella jejuna Say.

Cerion incanum Binn.

Pupoides modicus Gld.

Bifidaria p. hordeacella Pils.

Bifidaria rupicola Say.

Varicella g. floridana Pils.

Guppya gundlachi Pfr.

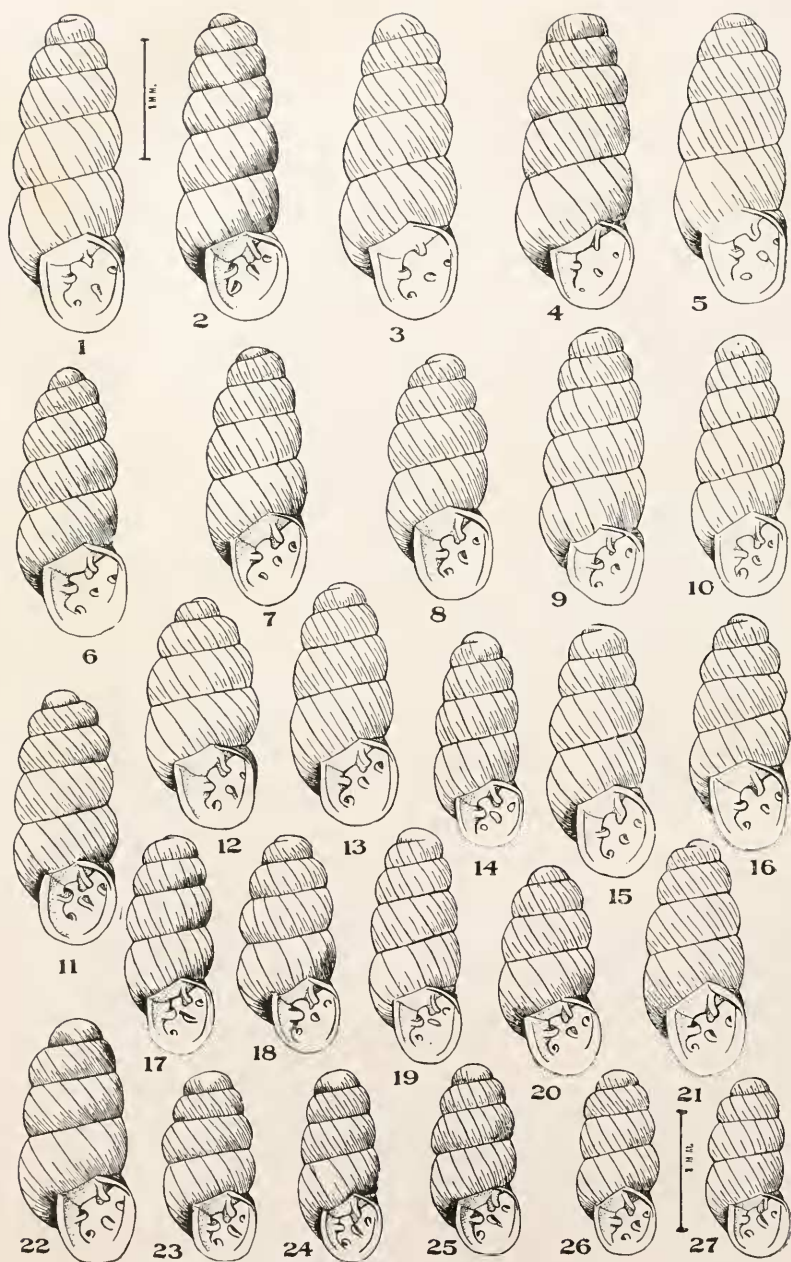
Vitrea dalliana 'Simps.' Pils.

FIKAHATCHEE KEY, Lee Co. Collected by Clarence B. Moore.

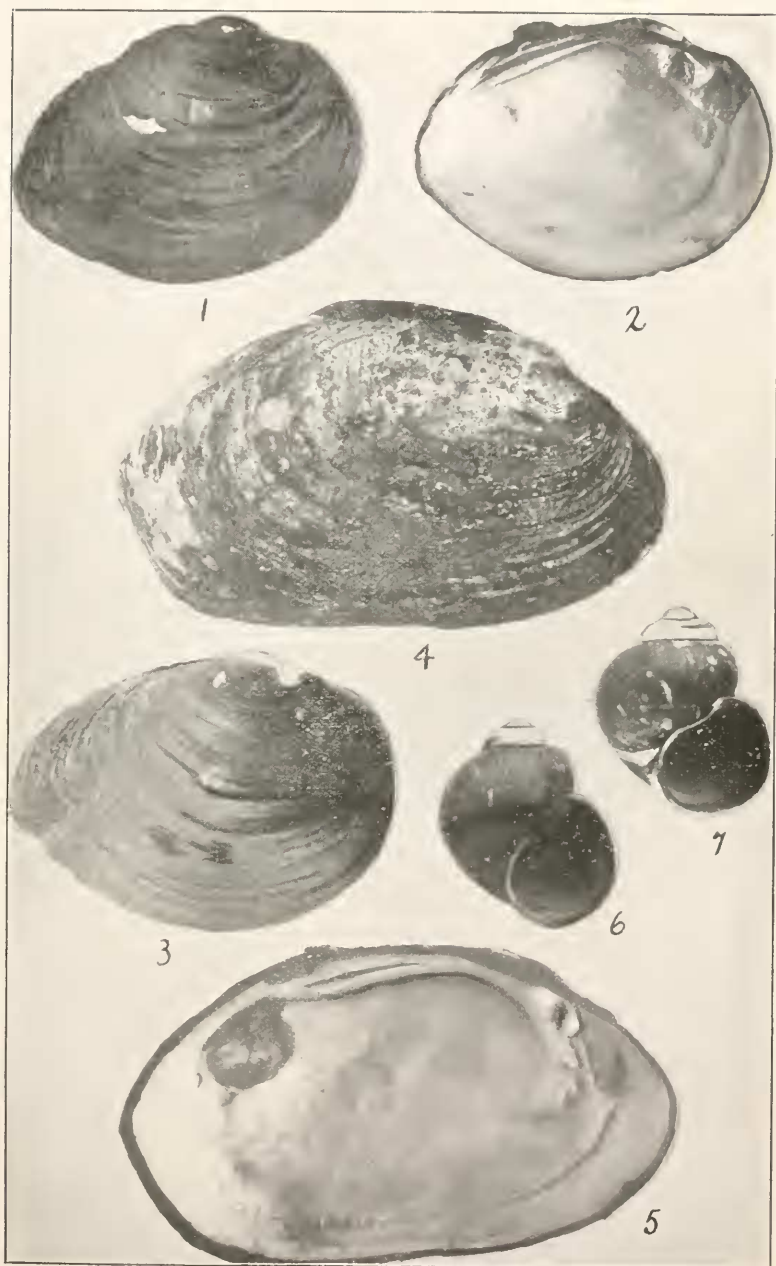
Helicina orbiculata Say.

Helicina o. clappi Pils.

Polygyra c. carpenteriana Bld.



VANATTA: VARIATION OF BIFIDARIA PELLUCIDA HORDEACELLA.



1, 2, 3. UNIO JACKSONIANUS FRIERSON.
 4, 5. UNIO PURPURIATUS SAY.
 6, 7. VIVIPARUS WALKERI PILS. & JOHNS.

